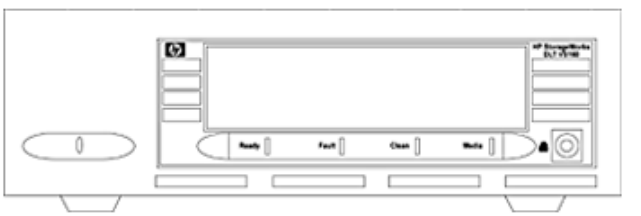
Overview

Backing up to tape is a key component of a complete storage strategy. Tape drives can be used for creating daily and weekly backups and tape allows customers to remove information off-site. Tape can be used for archival purposes to retain data for up to 30 years. The new HP StorageWorks DLT VS160 Tape Drive provides 160 GB capacity and 16 MB/s performance compressed. This is double the capacity and performance of the DLT VS80, reducing the overall cost of ownership, increasing the capacity in a single tape drive, reducing the number of cartridges needed to store the same amount of information and resulting in less downtime needed for back-ups. The DLT VS160 is a half-height drive based on DLT tape technology. Customers who have outgrown previous-generation DLT drives can move to the DLT VS160 and get increased capacity and performance and backward-read compatibility with the DLT VS80 formatted media. The DLT VS160 media can be read by the SDLT 600 providing a longer-term upgrade solution when customers outgrow the DLT VS160.

The HP StorageWorks DLT VS80 Tape Drive is positioned as an upgrade drive for DLT 40 customers, offering a 100% increase in capacity and performance. Utilizing industry standard DLT Type IV Media, the DLT VS80 Tape Drive offers HP customers a high degree of investment protection by providing backward-read compatibility with media previously written in the DLT 40 format. The DLT VS80 requires a different cleaning cartridge than the standard DLT format: a DLT1 cleaning cartridge must be used.



What's New

- HP StorageWorks DLT VS160 Tape Drive
  - Increased Capacity
    - With 160 GB capacity the DLT VS160 has double the capacity of the DLT VS80.
  - Increased Performance
    - The DLT VS160 transfers 16 MB/s of data, more than double that of the DLT VS80.
  - Investment Protection
    - The DLT VS160 is backward read compatible (BRC) with the DLT VS80.
  - Ease of Management
    - Supported by Library and Tape Tools (LTT), HP's unique management tool; making installation of tape drives easier and reducing down-time by troubleshooting errors.
  - Value
    - The DLT VS160 is a half-height drive with the price and capacity points to meet mid-range DLT customers' needs.

Models

DLT VS160, Internal, Worldwide	A7569B
DLT VS160, External, North America	A7570B
DLT VS160, External, International	A7571B
DLT VS80, Internal, Worldwide	337699-B21
DLT VS80, External, North America	337699-B22
DLT VS80, External, International	337699-B31

Overview

Key Features

HP StorageWorks DLT VS80:

- Half-height, 5.25-inch form factor tape drives with DLTtape technology
- Maximum native storage capacity of 40 GB, up to 80 GB, assuming 2:1 data compression
- Maximum native data transfer rate of 10.8 GB/hour, up to 21.6 GB/hour with compression
- Utilizes industry standard DLT Type IV Media
- Backward-read compatibility with data cartridges written in DLT 40 format
- Backward-read and write compatible with DLT1 tape devices such as the DLT1 1280 SuperLoader
- Can be read by SDLT 220 and 320 tape drives
- HP Data Protector, HP Data Protector Express, VERITAS Backup Exec, CA BrightStor ARCserve, Yosemite TapeWare and native Windows support (the most recent list of backup applications supported can be found at http://www.hp.com/go/connect)
- Qualified behind Microsoft® Windows 2000, Windows 2003, HP-UX, and Linux Supported with Solaris x86, Sun Solaris 9, SGI IRIX 6.5+, and IBM AIX 5.x
- Available in internal, external (tabletop), and rack-mount models

HP StorageWorks DLT VS160:

- Half-height, 5.25-inch form factor tape drives with DLT technology
- Maximum native storage capacity of 80 GB, with compressed capacity at 160 GB, assuming 2:1 data compression
- Maximum native data transfer rate of 28 GB/hour, up to 57 GB/hour with compression
- Utilizes industry standard DLT VS 1 Media
- Backward-read compatibility with data cartridges written in DLT VS80 format
- Can be read by the SDLT 600 tape drive
- HP Data Protector, HP Data Protector Express, VERITAS Backup Exec, CA BrightStor ARCserve, Yosemite TapeWare and native Windows support (the most recent list of backup applications supported can be found at http://www.hp.com/go/connect)
- Qualified behind Microsoft® Windows 2000, Windows 2003, and Linux (Go to http://www.hp.com/go/connect for the most recent list of operating systems supported)
- Available in internal, external (tabletop), and rack-mount models

Please check with http://www.hp.com/go/connect for more compatibility information.

Customer Benefits

- Half-height form factor requires only half the space of traditional DLT drives providing customers with more flexibility in high density applications.
  - Leaves more room inside the server for other options
  - Can be rack-mounted in a 1U space
- The DLT VS drives are designed to provide the right price capacity point for the mid-range customer.
- Qualified on HP ProLiant server platforms and others. (Go To http://www.hp.com/go/connect for details.)
- Backward-read compatibility provides an easy migration path for customers outgrowing current tape products.
- DLT VS drives can be read by SDLT Tape Drives providing for an easy upgrade path to SDLT drives in the future.
- Improved management and ease of integration into existing environment with Library and Tape Tools (LTT).
- The DLT VS160 requires fewer data cartridges to complete data backup compared to the DLT VS80, lowering the customer's total cost of ownership.
- The DLT VS160 offers 100% improvement in performance and reduces the backup window for customers by as much as 50%.
- The DLT VS160 offers improved performance and reliability through enhanced technology inside the drive:
  - Data path improvements create a more reliable drive
  - Multi-channel thin-film MR head allows for increased capacity and performance
  - The TapeSense circuitry reduces media load errors

Overview

Family Comparison

	DLT VS 80	DLT VS 160
Drive Technology	DLT Half-Height	DLT Half-Height
Capacity (native)	80GB	160 GB
Maximum Data Transfer (compressed)	6 MB/s	16MB/s
Buffer	2	16
Firmware Upgradeable	Yes, with L&TT	Yes, with L&TT
Maximum Drives per bus	2	2
MTBF	200,000 @100%	250,000 @ 100%

Product Highlights

DLT VS Technology

The DLT VS Tape Drives provide HP customers with value-capacity solutions that share much of the technology used other DLT tape drives. From its compatibility with previous-generation drives to its use of DLZ data compression and RLL encoding, DLT VS technology offers HP customers many of the same technological features found in previous generation DLT drives, while improving such features as capacity and performance.

Media and Drive Compatibility

HP recommends that you use HP-branded cartridges in your HP tape drives to assure the highest level of protection for your valuable data. HP's test program for HP DLT VS media is the most thorough and comprehensive in the industry. All HP cartridges must satisfy an exhaustive battery of additional tests that relate directly to real-life situations, where real data and real businesses are at stake. Non-HP cartridges, whilst fully compatible, are less optimized for use in HP tape devices. Your best choice for ease of support and maximum dependability is to use HP-branded DLT cartridges at all times.

The DLT VS160 Tape drive uses the DLTtape VS1 160GB data cartridge and DLTtape VS160 cleaning cartridge. The DLTtape VS1 media is a new type of media with improvements over the DLT Type IV media used in the DLT VS80 drive. It offers higher capacity and improved reliability. The DLT VS80 Tape Drive utilizes HP DLTIV data cartridges as well as industry standard DLT Type IV media and DLT VS cleaning cartridges.

NOTE: To write to DLT Type IV Data Cartridges previously written by a DLT 40, DLT 70, and/or DLT 80, each data cartridge must first be degaussed before usage with a DLT VS80, DLT1 or DLT VS160 Tape Drive or device. For new, unused media, this step is not necessary.

Software in the Box

The DLT VS80 and DLT VS160 include HP Data Protector Express Single Server Edition backup/recovery software and HP Data Protector Express Bare Metal Disaster Recovery option. Data Protector Express Single- Server Edition is suitable for small and medium-sized business customers looking for an easy-to-use backup application for a single server running Windows, Linux or NetWare. The HP Data Protector Express Bare Metal Disaster Recovery option provides automated system recovery following a major hardware or software failure. The fastest system recovery is in conjunction with the DLT VS80 and DLT VS160 OBDR feature.

As well as getting the Data Protector Express Single Server Edition at no incremental cost, DLT VS80 and DLT VS160 purchasers can upgrade to the class leading Data Protector Express at a significantly reduced price, compared to the standard price, by ordering Data Protector Express using the BB117AT part number. BB117AT is available at the time the tape drive is purchased or later. It is only available for new customers of HP StorageWorks tape drives.
Upgrading to Data Protector Express allows network backup, extends the D2D backup capacity and capability and permits the additions of agents and extensions to increase scale and performance of the backup infrastructure.

Rack-mount Tape Options

The DLT VS80 and DLT VS160 are supported in the HP StorageWorks 1U and 3U Rack-mount Kits, allowing customer to install up to 2 internal DLT VS drives in a 1U rack-mount space or up to 4 internal DLT VS drives in a 3U rack-mount space, respectively. Standard configuration for 3U Rack-mount Kit provides two internal SCSI buses (channels) supporting one DLT VS drive per bus. Standard configuration for 1U Rack-mount Kit provides two internal SCSI buses (channels) supporting up to 2 DLT VS drives per bus.
NOTE: Please refer to the Rack-mount Tape Drive Kits QuickSpecs for further information: http://h18000.www1.hp.com/products/quickspecs/10854_div/10854_div.HTML.

Product Highlights

Library and Tape Tools

The HP StorageWorks HP StorageWorks DLT VS tape drive family is supported by HP's industry-leading diagnostic tool, HP StorageWorks Library and Tape Tools (L&TT). L&TT is a single, convenient program that's a snap to install and simple to operate. L&TT's intuitive user interface eliminates the need for training and deploys in less than five minutes. This tool can make integration of the drive into a network faster by troubleshooting any errors and firmware upgrades easier to manage. This robust diagnostic tool is designed for both the experienced professional and the untrained administrator. It ensures product integrity through self-diagnostics and fast resolution to device concerns.

L&TT:

- Verifies installation of the drive
- Tests/verify the health of the drive and media
- Provides HP support with detailed device information
- Offers multiple options for finding and upgrading new firmware
- Performs performance optimization and recommendations
- Is included with each DLT tape drive and available via free download supporting all HP tape products

Additional information on L&TT plus download information can be found at http://www.hp.com/support/tapetools.

Compatibility and Integration Testing

The DLT VS80 and DLT VS160 Tape Drives are fully supported and compatible with ProLiant, HP-UX, and Alpha Servers and controllers. Other platforms are also supported; please check http://www.hp.com/go/connect for detailed lists. HP thoroughly tests products with leading software and operating systems, including HP Data Protector, Data Protector Express, VERITAS Backup Exec, CA ARCserve, and Yosemite TapeWare.

Compatibility

HP's extensive compatibility testing program assures that the HP StorageWorks DLT VS Tape Drives work with leading servers, operating systems, and backup applications - and not just those sold by HP. For the latest list of servers, workstations, operating systems, and backup software that support HP StorageWorks DLT VS Tape Drives, check the tape backup compatibility pages on our web site at: http://www.hp.com/go/connect.

HP Server Compatibility

The HP StorageWorks DLT VS80 and VS160 tape drives are supported on the following classes of HP systems:

- HP ProLiant DL servers
- HP ProLiant ML servers
- HP Integrity servers
- HP 9000 servers
- HP AlphaServers
- HP workstations

For details of which tape drive models work with which systems, including third-party (i.e. off-platform) systems, visit http://www.hp.com/go/connect for the latest hardware compatibility information.

Non-HP Compatibility

DLT VS80 only:

- Solaris x86
- Sun Solaris 9
- SGI IRIX 6.5+
- IBM AIX 5.x

OS Support

- Microsoft Windows 2000 and Windows 2003
- HP-UX
- Alpha Tru64

NOTE: Please visit http://www.hp.com/go/connect for the latest compatibility information.

NOTE: The Data Protector Express in-box software supports Windows, Linux and NetWare.

Backup Software Support

ISV Backup Software Platforms

- HP Data Protector
- HP Data Protector Express
- VERITAS Backup Exec for Windows NT/ Windows 2000
- Computer Associates ARCserve 2000, for Windows NT/ Windows 2000
- Yosemite TapeWare (Linux OS Support only)
- Native Operating System Backup Applications

NOTE: Please visit http://www.hp.com/go/connect for the latest compatibility information.

Service and Support, HP Care Pack, and Warranty Information

HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy to buy, easy to use support packages that help you make the most of your hardware and software investments. They let you choose the support levels that meet your business requirements, from basic to mission-critical. They help you contain total cost of ownership.

HP Care Pack warranty extensions can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For many products, post-warranty HP Care Pack Services are available when your original warranty has expired.
Why purchase an HP Care Pack service?

Your standard warranty protects against product defects. HP Care Pack Services help you guard against unplanned downtime, which can reduce your productivity and profitability. These convenient service packages:

- Protect your investment in HP products
- Provide consistent, predictable levels of support across your entire department or business
- Ease budget planning with fixed-cost support that includes parts and labor
- Give you direct access to proven technical and problem-solving expertise
- Offer a choice of response-time and repair-time commitments
- Deliver prompt, measurable results
- Are available whenever and wherever you do business

HP Care Pack availability may vary by country and product.

Supporting your Adaptive Enterprise journey

HP Services helps you make the Adaptive Enterprise real for your organization. The breadth, depth, and quality of HP hardware and software support services can help you **improve the performance** of your IT support processes and resolve the complex software and hardware problems that tax user productivity. HP Care Pack services help you **increase IT environment stability,** efficiency, and agility from the desktop to the data center, and improve the productivity of your employees.

Warranty and Services Included with the Product

Hewlett-Packard provides a 3-year, next-day, parts exchange, limited warranty, for the StorageWorks DLT VS160 Tape Drive, plus 9x5 phone support for the duration of the warranty.

For more information about HP's Global Limited Warranty and Technical Support, visit:
ftp://ftp.compaq.com/pub/products/storageworks/warranty/EN_321708-008.pdf

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Recommended Services

In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett Packard recommends:

3 years 24 x 7 Hardware Support

- Guards against downtime, which reduces productivity and profitability
- Eases budget planning with fixed-cost support that includes parts and labor
- Direct access to proven technical and problem-solving expertise

3 years 24 x 7 Software Support

- Improve the productivity of system managers and operators
- Improve system performance and reduce downtime due to software defects
- Expedite problem resolution through expert-level technical resources
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP and selected third-party software at a predictable cost
- Take advantage of subscription savings on software updates
- Keep your license compliancy up-to-date

Available HP Care Pack Services

Extend your product warranty with a wide choice of cost-saving support packages.

HP Care Pack Services are sold by HP and HP authorized enterprise and commercial resellers. Services for customers purchasing via direct and enterprise resellers are quoted using HP order configuration tools. Additional information about HP Care Pack Service features and benefits is available at http://www.hp.com/hps/carepack/services/.

Key for HP Care Pack Service availability in the table below:
E = Service available for customers purchasing direct and via enterprise resellers
C = Service available for customers purchasing via commercial resellers
N/A = Service not applicable

HP Care Pack Services Deployment and Per Event Services	Service Available
HP Installation	E/C
HP Installation & Startup	N/A
HP Implementation	N/A

For more information about Deployment and Per Event Services for HP Storage, visit http://www.hp.com/hps/storage/.

HP Care Pack Services Availability Services	1 yr	3 yr	4 yr	5 yr
HP Next Day Hardware Support	E/C	E/C	C	C
HP 4 Hr, 9x5 HW Support	E/C	E/C	C	C
HP 4 Hr, 13x5 Hardware Support	E/C	E/C	C	C
HP 4 Hr, 24x7 Hardware Support	E/C	E/C	C	C
HP 6 HR Call-to-Repair HW Support	E/C	E/C	C	C
HP Software Support	E/C	E/C	C	C
HP Software Support 24x7	E/C	E/C	C	C
HP Support Plus	E/C	E/C	C	C
HP Support Plus 24	E/C	E/C	C	C
HP Proactive Essentials 9x5, 10 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 9x5, 25 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 9x5 Unlimited	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7, 25 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7, 50 SW Incidents	N/A	N/A	N/A	N/A
HP Proactive Essentials 24x7 Unlimited	N/A	N/A	N/A	N/A
HP Proactive 24 Service (*)	E/C	E/C	N/A	N/A
HP Critical Service (*)	E/C	E/C	N/A	N/A

To find HP Care Pack Services available via HP authorized commercial resellers, visit http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=ELNL

Service and Support, HP Care Pack, and Warranty Information

HP Care Pack Service Product Numbers

Enterprise & Commercial Purchased Care Packs
('A' stands for physical Care Pack, 'E' for electronic Care Pack)

Product Number	Product Description
U2090A/E	Tape Installation HW Installation Only
H3155A/E	HW, "3-year", "NBD", "9x5", "on-site"*
H4616A/E	HW, "3-year", "4-hour", "13x5", "on-site"
U2068A/E	HW, "3-year", "4-hour", "24x7", "on-site"
U6358A/E	HW, "3-year", "6hr CTR", "24x7", "on-site"
U9338A/E	HW, "4-year", "4-hour", "13x5", "on-site"
U9339A/E	HW, "4-year", "4-hour", "24x7", "on-site"
U9340A/E	HW, "5-year", "4-hour", "13x5", "on-site"
U9341A/E	HW, "5-year", "4-hour", "24x7", "on-site"
UA450PE	HW, "1-year", "NBD", "9x5", "on-site", "Post Wty"
UA451PE	HW, "1-year", "4-hour", "13x5", "on-site", "Post Wty"
UA452PE	HW, "1-year", "4-hour", "24x7", "on-site", "Post Wty"
UA453PE	HW, "1-year", "6hr CTR", "24x7", "on-site", Post Wty"

Enterprise Purchased Care Packs

Product Number	Product Description	DLT VS160 Band	DLT VS160 Install Band
HA113A1	Tape Installation HW Installation Only	N/A	596
HA101A3	HW, "3-year", "next-day", "13x5", "on-site"	455	N/A
HA103A3	HW, "3-year", "4-hour", "13x5", "on-site"	455	N/A
HA104A3	HW, "3-year", "4-hour", "24x7", "on-site"	455	N/A
HA105A3	HW, "3-year", "6hr CTR", "24x7", "on-site"*	455	N/A
HA106A3	SW, "3-year", "Phone-in", "9x5"	N/A	N/A
HA107A3	SW, "3-year", "Phone-in", "24x7"	N/A	N/A
HA106A3	SW, "3-year", "Phone-in", "9x5"	N/A	N/A
HA107A3	SW, "3-year", "Phone-in", "24x7"	N/A	N/A
HA109A3	HW Only, Support Plus, "3-year", "13x5"	455	N/A
HA110A3	HW Only, Support Plus 24, "3-year", "24x7"	455	N/A
HA111A3	HW Only, Proactive 24, "3-year", "24x7"*	455	N/A
HA112A3	HW Only, Critical Service, "3-year", "24x7"*	455	N/A

NOTES:
* Both Proactive 24 & Critical Service only relate to 'reactive elements', 'proactive elements' are available on time & materials basis. (SW is supported separately per package).

The Care Pack information quoted above relates to 3 year offerings only, 1yr packs are available for each offering (replace A3 with A1).

Service and Support, HP Care Pack, and Warranty Information

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit http://www.hp.com/support

HP Education Services

For more information about HP Education Services for Storage and SAN, visit http://education.hp.com/curr-storsan.htm

Additional Services Information

For more information about Deployment, Per Event, Consulting and Education services for HP Storage, visit: http://www.hp.com/hps/storage/

For more information about HP Care Pack Services for Storage, visit: http://www.hp.com/hps/carepack/storage/cp_networked.html

For more information about HP Storage Software, services and updates, visit: http://h18006.www1.hp.com/storage/software.html

If you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP" http://www.hp.com

Related Options

Media	HP DLTtape VS1 160GB Data Cartridge NOTE: For use with the DLT VS160 Drive.	C8007A
	HP DLT VS160 Cleaning Cartridge NOTE: For use with the DLT VS160 Drive.	C8016A
	HP DLTtape IV Data Cartridge NOTE: For use with the DLT VS80 Drive.	C5141F
	HP DLT1/VS Cleaning Cartridge	C7998A
Host Bus Adapters, Controllers, and Accessories for ProLiant Servers	Please check http://www.hp.com/go/connect for the most recent list supported controllers. Some controllers may be out-of-date.	
	Smart Array 6i Controller (integrated on system board on certain servers) NOTE: This controller is integrated only on HP ProLiant DL380 G4 servers.	N/A
	Integrated Single Channel Ultra320 SCSI Controller	N/A
	Integrated Dual Channel Ultra320 SCSI Controller	N/A
	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter NOTE: This SCSI host bus adapter supports Windows, Linux, and Netware.	268351-B21
	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 NOTE: This controller may also be used for connecting HP DLT VS tape drives to ProLiant or 3rd party server platforms such as Dell, IBM, and Sun. Please refer to the HP Tape Backup Products Compatibility website at http://www.hp.com/go/connect for more information.	374654-B21
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS NOTE: This SCSI host bus adapter supports the following operating systems: OpenUNIX, Solaris, OS/2, Novell NetWare 3.2/4.2/5, Unixware 2.x/7.x. Some of these operating system may not be supported on other HP Ultra320 SCSI host bus adapters. Please check the appropriate controller QuickSpecs for support details.	284688-B21
Host Bus Adapters, Controllers, and Accessories for HP PA-RISC and IPF servers	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter	A7173A
	PCI Ultra2 Low Voltage Diff SCSI Adaptor NOTE: HP-UX only.	A4999A
	PCI 2 Port 100Base-T 2 Port Ultra2 SCSI NOTE: HP-UX only.	A5838A
	Please refer to the HP Tape Backup Products Compatibility website at http://www.hp.com/go/connect for more information on support for HP PA-RISC and IPF servers.	
Host Bus Adapters, Controllers, and Accessories for HP AlphaServers	32-Bit PCI to Single Channel Wide-Ultra2 SCSI Adapter	3X-KZPCA-AA
	Triple-Function Combo Adapter: LVD / SCSI II, 10/100 UTP Ethernet, and 2D Graphics	3X-DEPVZ-AA
	Dual Channel 64/66-MHz PCI-to-SCSI Ultra160 Host Bus Adapter	3X-KZPEA-DB

Options

Host Bus Adapters, Controllers, and Accessories for 3rd Party servers and workstations	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 NOTE: This SCSI controller supports a wide range of connectivity to non-HP 32-bit servers. Please refer to the HP Tape Backup Products Compatibility website at http://www.hp.com/go/connect for more information on support for non-HP 32-bit server platforms using your HP SDLT tape drive. Please refer to the HP Tape Backup Products Compatibility website at http://www.hp.com/go/connect for more information on SDLT support for non-HP servers using third-party controllers and adapters.	374654-B21
Rack-mount Tape Options	1U Rack-mount Kit, Worldwide NOTE: Please refer to web page for further information: http://h18006.www1.hp.com/products/storageworks/3urackmount/index.html	A7445B
	3U Rack-mount Kit, Worldwide NOTE: Please refer to web page for further information: http://h18006.www1.hp.com/products/storageworks/3urackmount/index.html	274338-B22
Cable Kits	68-pin HD/VHDCI, 12 ft/3.66 m NOTE: External Cable only.	341177-B21
	68-pin HD/VHDCI, 16.40 ft/5 m NOTE: External Cable only.	328215-001
	68-pin HD/VHDCI, 12 ft/3.66 m NOTE: External Cable only.	328215-002

Kit Contents

Model	Kit Contents Description	Part Number
DLT VS160 Internal	One Internal Drive, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers),Data Cartridge, Warranty Documentation, Media Documentation, HP Data Protector Express Single Server Edition backup software and HP Data Protector Express Bare Metal Disaster Recovery option on CD-ROM, 1 ribbon cable, self-terminated. *NOTE: 0D1 will appear after this part number on your sales order if factory integration into a server or rack-mount kit is indicated	A7569B*
DLT VS160 External	One External Drive, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers),Data Cartridge, Warranty Documentation, Media Documentation, HP Data Protector Express Single Server Edition backup software on and HP Data Protector Express Bare Metal Disaster Recovery option CD-ROM, 1 Ultra3/Ultra160 compliant SCSI cable, 68 VHDCI TO 68-PIN,HD, 2.5M, 1 terminator, 1 power cord.	A7570B
DLT VS160 External (Int'l)	One External Drive, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers), Data Cartridge, Warranty Documentation, Media Documentation, HP Data Protector Single Server Edition backup software and HP Data Protector Express Bare Metal Disaster Recovery option on CD-ROM, 1 Ultra3/Ultra160 compliant SCSI cable, 68 VHDCI TO 68-PIN,HD, 2.5M, 1 terminator.	A7571B

Options

DLT VS80 Internal	Contains one DLT VS80 Internal Tape Drive, 1 HP DLTtape IV Data Cartridge, one internal 2-Device Ribbon Cable with switchable LVD/SE Terminator, Warranty Card, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers), TapeWare backup software on CD-ROM. *NOTE: 0D1 will appear after this part number on your sales order if factory integration into a server or rack-mount kit is indicated	337699-B21*
DLT VS80 External (WW)	Contains one external DLT VS80 Tape Drive, power cord, SCSI terminator, 1 HP DLTtape IV Data Cartridge, one external 6 Wide to VHDCI cable, Warranty Card, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers), TapeWare backup software on CD-ROM.	337699-B22
DLT VS80 External (Int'l)	Contains one external DLT VS80 Tape Drive, SCSI terminator, 1 HP DLTtape IV Data Cartridge, one external 6 Wide to VHDCI cable, Warranty Card, HP StorageWorks Tape CD-ROM (contains links to HP StorageWorks Library and Tape Tools utilities, user manuals and Windows drivers), TapeWare backup software on CD-ROM.	337699-B31

Technical Specifications

		DLT VS80 Tape Drive	DLT VS160 Tape Drive
Dimensions	Form Factor	5¼ inches half-height	¼ inches half-height
	Physical (H x W x D) Internal	1.73 x 5.83 x 8.7 in (4.38 x 14.82 x 22.1 cm)	1.656 x 5.807 x 8.7 in (4.20 x 14.75 x 22.2 cm)
	Physical (H x W x D) External	2.61 x 8.3 x 10.73 in (6.63 x 21 x 21 x 27.25 cm)	2.61 x 8.3 x 10.73 in (6.63 x 21 x 21 x 27.25 cm)
	Shipping (H x W x D) Internal	12.75 x 9.38 x 6.38 in (32.69 x 23.83 x 16.21 cm)	12.75 x 9.38 x 6.38 in (32.69 x 23.83 x 16.21 cm)
	Shipping (H x W x D) External	14.75 x 12.50 x 7.12 in (37.47 x 31.75 x 18.09 cm)	14.75 x 12.50 x 7.12 in (37.47 x 31.75 x 18.09 cm)
Weight	Out of box Internal	3.2 lb (1.45 kg)	3.0 lb (1.36 kg)
	Out of box External	7.61 lb (3.45 kg)	8.00 lb (3.63 kg)
	Shipping Internal	6 lb (2.72 kg)	6 lb (2.72 kg)
	Shipping External	12.25 lb (5.56 kg)	12.25 lb (5.56 kg)
Capacity	Native	40 GB	80 GB
	Compressed (assumes 2:1 data compression)	80 GB	160 GB
	Buffer Size	2 MB	16 MB
Performance	Sustained Transfer Rate (native)	3 MB/s	8 MB/s
	Sustained Transfer Rate (with 2:1 data compression)	6 MB/s	16 MB/s
	Burst Transfer Rate	20 MB/s (Synchronous)	160 MB/s (Synchronous)
	Data Access Time	68 s	90 s
	Average Load Time	40 s	120 s
	Average Unload Time	20 s	25 s
Reliability	MTBF	200,000 hours at 100% duty cycle	250,000 hours at 100% duty cycle
	Uncorrected Error Rate	$1x10^{17}$ bits read	$1x10^{17}$ bits read
Media Compatibility		DLTtape IV DLT1 DLT 4000 - read only	DLT VS 1 VS80 formatted DLTtape IV - read only
Tape Format	Recording Format	168 tracks	240 tracks
	Data Compression	DLZ	DLZ
	Data Encoding Method	RLL (1,7) code	PRML
Interface	SCSI Interface	Wide Ultra SCSI-2 (LVD)	Wide Ultra III SCSI-2 (LVD)
	SCSI Connector	Internal: one 68-pin HD External: two 68-pin HD	Internal: one 68-pin HD External: two 68-pin HD
Power Specifications	Power Requirements	+5V, +12V	+5V, +12V
	Power Consumption	15 Watts (average read/write operation)	15 Watts (average read/write operation)

Technical Specifications

Environmental Specifications	Temperature	Operating	50° to 104° F (10° to 40° C)
		Storage	40° to 150.8° F (-40° to 66° C)
	Non-Condensing Humidity	Operating	20% to 80%
		Storage	10% to 95%
Drive LED Indicators	External Power	Drive has detected an unrecoverable error condition	
	Drive Error	Power on/off or tape is in motion	
	Ready	Drive has detected an error but does not indicate an unrecoverable error	

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